InterspecieS

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Wading Through

A Letter to Our Supporters

Twenty years ago, I wrote in my first book that the environmental crisis is a crisis in human perception. Two years ago, I inserted this addendum ....And art is the foremost tool invented by human culture to transform perception.

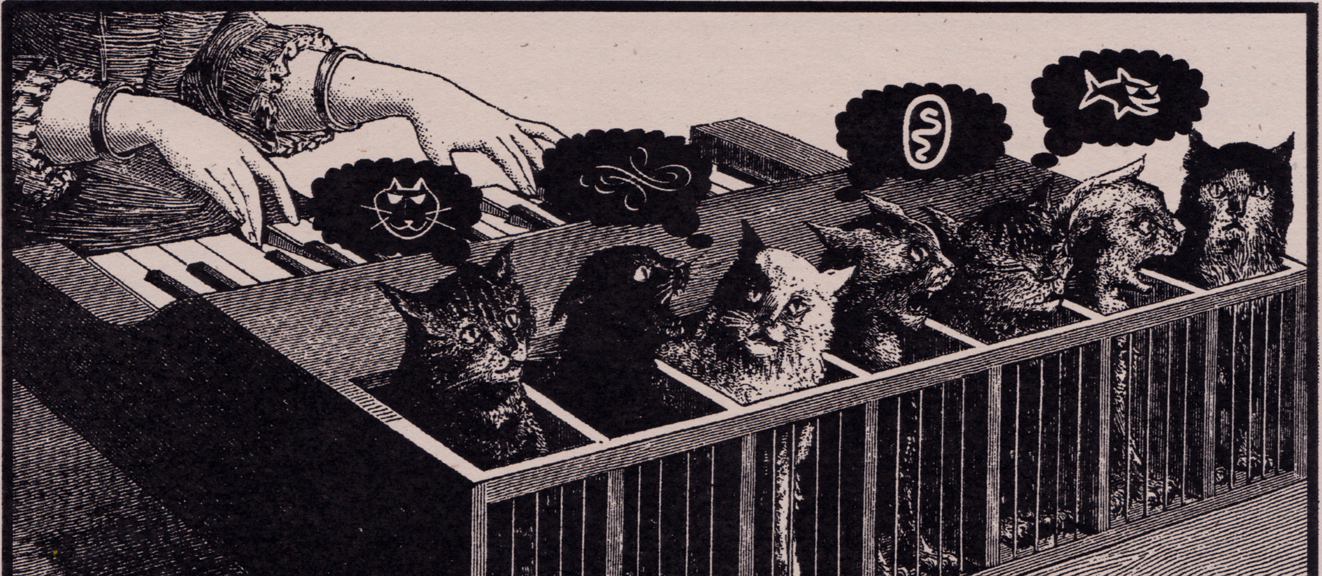
If both these statements make sense, then developing an ecological aesthetic seems a crucial task for our present generation if we are to provide a habitable planet for generations unborn. Refining and promoting such an ecological aesthetic is the underlying vision of this organization.

For years, Interspecies has been producing field projects with animals that grant artists some of the same access to wild nature that our culture usually reserves for field biologists. Our focus on artists has not been 100% intentional. Until rather recently, the whale biology community treated us as outsiders, and our communication research as illegitimate science.

Perhaps our most satsifying accomplishment of the past few years, has been to develop an expanded, international context for our projects, which has led to a greater acceptance by the scientific community. We're no longer guilty of doing bad science, because everyone now concludes that we're not doing any science at all. Ironically, this has prompted a few innovative art/science collaborations. The result is a holistic approach to whale studies.

Scientists insist that these holistic collaborations not be called 'science'. They view their discipline as they view virginity: you either are or you aren't. There's no half measures, even holistic half measures.

Art is less particular. Composer John Cage defines it as "anything you can get away with." So even though we regard these new collaborations as both art and science, we remain content to keep our own contribution to the whole (and the whole itself)



camouflaged as art.

An artist's perception of nature is different, in kind, than a scientist's. Precisely how that difference manifests, is something we often observe during whale projects that include artists and scientists working together.

Artists watch biologists relating to whales and conclude that the scientific method offers one among many worthy perceptions of the universe. They resent biologists who act as if their discipline lets them perceive the world more accurately than other ways. Artists value intuition. Scientists tend to devalue intuition in favor of numbers and data.

One result is that biologists are clearly encumbered trying to explain phenomena that can not be reduced to numbers, such as the non-quantifiable intellect that so many lay people sense in the presence of cetaceans. A few biologists in positions of power promote their vantage, not as one good way to view the world, but as the only legitimate perception of nature. This arrogance provides grounding for an economic system that denies intrinsic value to the natural world it plunders. It is also the basis of environmental policy-making.

Scientists have as many complaints against purveyers of the subjective. Artists, mystics and activists often have little direct experience of the phenomena they describe. Artists, especially, color nature to fit their own pre-conceived belief system. They are poor observers, quick to skew the reality scientists understand as fact.

The Gestalt

I have spent much of my career refining the role of translator between the two worldviews. I seem to get people's ear, probably because I have as much direct experience of the animals as the most knowledgable champions of either worldview. Accepting the role of mediator, I have lately been promoting Interspecies as a synthesizer of what most people regard as a natural art/science schism. But there's nothing natural about it. Nature lies wounded everywhere, and we humans can't even agree to listen to one another to help heal the damage.

I am now re-inventing Interspecies is an integrator of art, biology and activism. My own dream is that someday soon the human race will end its crisis in perception, by accepting a more equitable and respectful paradigm for perceiving animals. It's all about co-existence.

I sometimes feel overwhelmed to recognize this integrative model as a viable prototype to tranform our relations with the Earth. If it sounds like too grand a claim, then realize a glimmer is just that. It's spoken as a humble ideal.

The synthesis Interspecies now promotes helps explain the Gestalt behind our June 2003 underwater concert in Berlin. The cast of onstage characters included world class activists, whale politicians representing the International Whaling Commission, and local musicians. The evening began in Berlin's most architecturally stunning theater. Some speakers explained how military sonar is destroying the oceans (see page 6). Some described the complex ways whales communicate among themselves. One described dolphins as the closest thing to an extraterrestrial intelligence our species may ever know (see page 7).

The audience then moved to a pool to hear music composed 100% from whale sounds, and sensed primarily as vibrations within the skull, as if emanating from within the body itself.

The event was aesthetically innovative. Many regarded regarded it primarily as a healing experience. Others focused on the provocation of the expressed political views. Someone told me it was the most sensuous rally they'd ever attended. It was all of that. At the same time.

The "L" Word

My rap about the convergence of art, science and activism providing a basis for future cetacean research puts me in increasing demand as a public speaker. My objective is perhaps best exemplified by a keynote address I delivered in March 2003, at one of the largest cetacean science conferences in the world.

One aspect of this conference amply underscores my impatience with the current paradigm of whale biology. The conference focused on cetacean acoustics and communication. Yet the only scientist with a paper focusing on a cetacean *language* was actually barred from the podium because he refused his peers' demand that he excise the word 'language' from his talk. (Find an excerpt of Preben Wik's paper on page 5)

Ironically, my keynote escaped the censors, because, well, I am an artist, and therefore an official ambassador of the intuitive worldview. This camouflage granted me an hour to present a provocative thesis entitled "How Whales

Are Changing Our Perception of Animals." I mentioned language several times to explain the social culture of humpbacks, dolphins, belugas, orcas, and cachalots.

An Old Handicap

Interspecies has a handicap whenever we try to compete for limited foundation grants. We simply fall through the cracks of the set categories of art, science, and environmental activism. You may think I am shooting myself in the foot, but I no longer bother to apply for grants if they include an application form. The process of shoehorning our integrative work into some glib category, muddles the vision, which virtually assures we don't get funded.

Because this failure seems also to apply to foundations that openly state that they value holism, I am willing to consider the possibility that I am a pathetic caricature of a fundraiser. There is an old adage that says artists can not promote themselves. But who else is going to do it, if not me?

Actually, my own attempt to procure funds for Interspecies projects, is focused on freeing up the organization from its utter reliance on soft money. Sponsorship from individuals is essential, but relying on friends 100% has proven to be a disaster in these wheezy days since the stock market crash. My growing role as a public speaker lies at the heart of this effort.

Twelve years ago, I wrote a newsletter as a personal letter to you, our supporters. I was looking for answers, and decided to try a bit of public soul-searching to find out if anyone reading this newsletter might be able to provide me with some new direction.

At that time, our eight year orca project had recently come to a close. In transition, I had produced three rather expensive projects in a row, to the Arctic in search of beluga whales. I found the whales, but they were being hunted everywhere, and were unwilling to engage our crew of artists and scientists seeking interaction.

My letter got enough response to help me understand that the work I do inspires a few people. Some readers responded with financial support for this 501c3 non-profit. The confidence I gained helped me re-invent Interspecies.

A Dismal Year

Twelve years later, I wish to report that 2003 has been the most dismal year for fundraising since I started this non-profit educational institute 25 years ago. Because Interspecies both defines and sponsors my career as a working artist, I consider it a dangerous period for both myself and my family.

I'm 56 years old, and I am quite certain that I do not want to start over and try some new way to earn a living.

Searching for reasons, I notice the many other non-profit leaders voicing the same dismay. Perhaps my current inability to raise enough funds both to operate this organization and support my family may not be a sign of the declining relevance of Interspecies, but a function of the general weakness of the economy.

I simply don't know if a community of sponsors is out there, just waiting to hear about Interspecies. If they are, then, so far, they are keeping silent.

I need to consider that new sources of funding are not going to emerge. Yet my own quirky personality leaves me hoping (perhaps beyond hope) that some angel will soon appear to provide some new contacts and, even better, the funding to keep me doing this job I love for years to come.

There are signs hinting that our lack is temporary. During 2003 my job as Interspecies president became exponentially busier. Likewise, Interspecies name is now known just about everywhere people think about whales.

I have already described for you the keynote address, and the underwater concert in Berlin. The deep level of my concern prompts me to share a few other positive signs from the past year.

- In February, I toured the West, including colleges, museums, spiritual centers, with a one hour presentation about the work of Interspecies. As I say, I'd like to do far more presentations and tours, because it frees Interspecies a bit from the onus of dependency on a few sponsors. I am not a skillful self-promoter, so I seek help to put this together on an ongoing basis.

- In April Interspecies coordinated artists to perform three underwater concerts in Alaska (with the audience in a pool) based on whale sounds. The event was sponsored by Kodiak Whalefest, Interspecies, and the US Navy.

- In July I was filmed interacting musically with orcas, by National Geographic for a one hour TV show about animal language.

- In August, I completed the editing and the collecting of a CD's worth of whale audio samples. It included calls from six species, as well as a spoken text of my March keynote speech in Europe. Interspecies' collaborator on this innovative project is Greenmuseum.org. They are now distributing the sample CD to well known techno musicians with the goal of producing an album of music based entirely on whale sounds. All proceeds will support the two non-profits.

As these examples show, I am keeping busy developing alternative funding sources.

Having said that, let me make it quite clear that Interspecies can not survive another year like 2003. We simply have to find a few more sponsors willing to stay with us for the long haul.

A Proposal For 2004

Now that I've outlined some of the crucial issues of the current crunch, I'd like to present what Interspecies hopes to accomplish in the immediate future.

All the activities I have described above find their grounding in my own artistic background. Some activities have included participants from the worlds of science, activism, and high technology. But the foundation remains aesthetic.

For two years I've been on a quest, formulating ideas and gathering tools to test the profound hypothesis of whether or not some cetacean possesses a true language. Possibilities include belugas, cachalots, bottlenose dolphins, orcas; all are species with which I already have experience.

A key aspect of the project's design, is the fact that I am already in contact with fifteen or twenty people in the world who can help do the tests. In simplest terms, we need to gather audio data, analyze it, package it for peer review, and publish the results.

Two issues intercede. First, this is a scientific endeavor. It has to be designed that way, with all the necessary rigor that science demands. The primary audience will be mainstream biologists and acousticians, the groups most impacted by the results.

I am a cetacean reseacher, but not a scientist. I am inextricably drawn to produce this project. I possess the expertise, the tools, the network and the desire to do it well. The subject matter involves perception, sound, communication theory, and whale culture: all of which I am currently speaking about at conferences and universities around the world.

The second issue is funding. This major hurdle, right now, keeps me from taking the next step. There are necessary outlays to purchase technology, charter a boat, and gather together the participants to design the project. The whole can not manifest unless all the parts are operating simultaneously.

A sponsored conference. About twenty people from half a dozen countries need to sit down together to share ideas, and determine what each of us can do to prove the hypothesis that one or another species of cetacean possesses a language.

This is a profound thesis that has inspired many people for many years. It seems sad but true that the very idea of a whale possessing a true language expresses a different paradigm than contemporary biology warrants. That may explain why none of the people desiring to test the hypothesis are biologists. They include software designers, acousticians, cognitive scientists, linguists, musicians, a boat skipper. The shifting paradigm also explains why oceanographic centers like Scripps or Woods Hole have expressed zero interest.

A Recorder. We need new technology to record cetaceans underwater in the wild. Until this year, the necessary recorder/hydrophone combo was prohibitively expensive.. Now, there are two or three recorder models under $3000, that will document sound up to 192 kHz. However, the purchase makes no sense unless we also have a boat at our disposal. We won't be able to choose a specific species, or a location, until we hold the conference.

A boat, either chartered or donated, large enough to provide a platform for a two or three month recording session with some species of toothed whale. The session will be documented by the full spectrum recorder. Once we make the recordings, we shall distribute them to the various people in our network people who possess the skills to analyze them.

We also hope to provide a direct connection from the boat to the Internet. Beyond the obvious email updates, streaming media opens the possibility that other researchers can interact, both with us and the whales, from their own computer.

If anyone reading this has access to a sea going vessel large enough to accommodate four to six people, either on the east coast, west coast, or Europe, and also has the wherewithal to loan it to Interspecies

for part of a summer, we can provide a full tax deduction.

More About the Network

The Interspecies website has dramatically expanded our ability to communicate the work of this organization to an international audience. Throughout the past year, interspecies.com has also developed into an email network for professionals around the world who are intersted in discussing the knotty challenge of cetacean language.

The network includes about twenty people. Some are involved in the direct issue of understanding the bases of cetacean language. Others are developing pattern recognition software. Still others are inventing new graphing techniques or analysis tools for studying audio.

To be perfectly clear, we are not trying to discover what the whales are saying to one another. To try that would involve a level of interspecies cooperation, patience, and technology I have never encountered in the wild. But the social mechanisms that lead to communication, do not exist in captive situations, which might be described as unrelated animals doing their best to survive in a hostile environment.

Right now, members of the informal network already possess much of the software and some of the techniques to test whether these beings actually possess a language. Think of it as an exploration into the outer reaches of pattern recognition, searching for signs that a dolphin encodes meaningful, repeated and repeatable patterns within its clicks and whistles. The hardest part is figuring out where to look.

Let me conclude this personal letter to you with some great news. Interspecies has successfully fundraised for a new Apple computer system which we will purchase in December. The box will provide a terrific foundation for the next phase of our networked audio research.

—Jim Nollman sept 2003

Building a Common Ground:

Communication Across the Species Barrier

by Preben Wik, Dept. of Linguistics, University of Oslo, Norway

Cognitive science is the interdisciplinary study of cognition, mind and intelligence. It bridges philosophy, psychology, artificial intelligence, neuroscience, linguistics, and anthropology. This relatively new science can also be successfully bridged with other sciences, such as marine biology to create new fields of science involving communication theory and language technology in the study of animal minds.

This brief paper is offered as an outline of the rationale behind a piece of software that was developed by the author in connection with his thesis presented to the Dept. of Linguistics, at the University of Oslo in 2002. The software called GAPR, is a tool for reducing the distance between communicative agents of different domains (e.g. humans and dolphins), using language technology and neural networks as a bridge. In deciding what elements to incorporate in such a tool, some fundamental linguistic and cognitive aspects of language and communication are investigated.

Protocol

Are the internal conceptual structures of humans and other animals similar enough to be transferable? Do we have any common ground to use as a foundation? Sorting out sensory input and classifying it, is one of the basic jobs of all brains. For a rabbit to distinguish between a carrot and a fox, knowing when to forage and when to flee, classification and a conceptual structure must be made. Many objects and events - i.e. structures of the external world - is common ground between species.

In addition to this general nonverbal classification, human beings utilize an innovation known as symbolic reference. This is used in order to communicate internal objects, events, and emotions to each other. The general function of symbolic reference — as implied by the name — is to refer to a concept by the use of a symbol. This is the fundamental abstraction on which communication is built. There is no inherent relation between symbol and concept, hence sounds can work as a symbolic reference, as is our standard choice, or hand signals, dots of ink on a paper, flashing lights, or anything else.

Both communicating parties must be able to produce and perceive the symbols of exchange, so the choice of symbols is not arbitrary in relation to our perceptive and productive capabilities. This is a problem GAPR aims to solve, by exchanging symbols via a transfer to the respective perceptive domains. Furthermore, information cannot be embedded in the symbol (signal) by itself, but in the symbol together with an agreement on how to interpret the symbol. This agreement is called a protocol. Thus there are three interdependent requirements for this type of communication:

1) **Processing unit:** For example a brain or a computer that is able to do the internal workings of exchanging symbols for concepts.

2) **Protocol:** An agreement, allowing the exchange of symbols to be correctly interpreted. For example a linguistic system or the TCP/IP protocol for communication between computers. A linguistic protocol may be seen as a complex adaptive system, not something in the agent, but between agents, much in the same sense as culture.

3) **Interface:** An input/output system, for example mouth and ears for normal linguistic exchange. An interface barrier appears when input/output devices of one of the agents are incompatible with the others. Using the same linguistic protocol but hands and eyes instead of mouth and ears, is a solution to an interface barrier for deaf people. Keyboards and monitors are interface bridges between humans and computers etc.

Court Restricts Deployment of Navy Sonar

26 August 2003

SAN FRANCISCO ~ A federal judge ruled today that the Navy's plan to deploy a new high-intensity sonar system violates numerous federal environmental laws and could endanger whales, porpoises and fish. U.S. Magistrate Judge Elizabeth Laporte barred the Navy's planned around-the-world deployment and ordered the Navy to reduce the system's potential harm to marine mammals and fish by negotiating limits on its use with conservation groups who had sued over its deployment. The sonar system, known as LFA, relies on extremely loud, low-frequency sound to detect submarines at great distances. According to the Navy's own studies, LFA generates sounds up to 140 decibels 300 miles away from the sonar source. Many scientists believe that blasting such intense sounds over large expanses of the ocean could harm entire populations of whales, porpoises and fish. During testing off the California coast, noise from a single LFA system was detected across the breadth of the North Pacific Ocean.

In her ruling, Judge Laporte found that a permit issued to the Navy by the National Marine Fisheries Service to deploy LFA sonar violates the Marine Mammal Protection Act, the Endangered Species Act, and the National Environmental Policy Act because it did not adequately assess the risks posed by the system to marine mammals and fish. Judge Laporte found that, "endangered species, including whales, listed salmon and sea turtles will be in LFA sonar's path. There is little margin for error without threatening their survival-Absent an injunction, the marine environment that supports the existence of these species will be irreparably harmed."

Scientists have been increasingly alarmed in recent years about undersea noise pollution from high-intensity active sonar systems, which have been shown to harm and even kill whales and other marine life. The mass stranding of multiple whale species in the Bahamas in March 2000 and the simultaneous disappearance of the region's entire population of beaked whales intensified these concerns. A federal investigation identified testing of a U.S. Navy mid-frequency active sonar system as the cause. Last September, mass strandings occurred in the Canary Islands as a result of military sonar, and in the Gulf of California as the likely result of an acoustic geophysical survey using extremely loud air guns. Most recently, more than a dozen harbor porpoises were found dead on the beach near the San Juan Islands soon after the Navy tested active sonar in May. Videotape shows a pod of orca whales in the foreground behaving erratically as the Shoup, a U.S. Navy vessel, emits loud sonar blasts. Recent tests on one of the harbor porpoises revealed injuries consistent with acoustic trauma.

"Today's ruling is a reprieve not just for whales, porpoises, and fish, but ultimately for all of us," said Joel Reynolds, senior attorney and director of the Marine Mammal Protection Project at NRDC. "The decision recognizes that both national security and environmental protection are essential. It recognizes that during peacetime, even the military must comply with our environmental laws, and it rejects the blank-check permit that would have allowed the Navy to operate LFA sonar virtually anywhere in the world."

from Iceland Daily News, 25 August 2003

Britain to Shun Icelandic Fish?

Britain's Minister of Fisheries, Ben Bradshaw has criticized the Icelandic government's decision to commence whaling for scientific purposes. He urges the British public to stop buying Icelandic seafood products and to stop traveling to Iceland. According to The Independent, it is unusual for a minister to take this course of action. The public can really make their opinion known by not buying Icelandic products and by not visiting Iceland. Whale watching in Iceland produces more capital than whale hunting has ever done.

The paper says that the Minister's comments will greatly aid environmental associations, which have urged the public to think twice before buying Icelandic products. The Independent also quotes Stefán Ásmundsson, head of the Icelandic commission at the IWC, who says, "Whaling in Iceland will always be sustainable. It is simply a fact that our economy is dependant on the use of ocean resources."

Iceland Daily News, 22 August 2003

Tourists Cancel Trips

The recommencement of whaling by Icelanders has resulted in numerous travelers canceling their trips to Iceland. According to Clive Stacy at British company Arctic Experience, minke whaling is a shock to the travel industry. "We've offered trips to Iceland for 18 years, and we're the largest British travel agency offering trips to Iceland. This year, nearly eight thousand people visited Iceland through us. The whaling is already beginning to have an effect; people are calling us and canceling trips. The majority of British people are against whaling, and it will take years to repair the damage to Iceland's image." According to Stacy, his company now has to receive written confirmation from all its partners in Iceland that they are against whaling. "It's the only way that we'll be able to say to our customers that if they travel with us to Iceland they won't be supporting whaling."

Knútur Óskarsson from US travel agency Destination Iceland said that 18 people booked to Iceland for a fashion shoot, cancelled due to whaling. "Whaling does not only damage the travel industry, but the overall image of the country abroad." Sales and Marketing manager of Iceland Travel, Sigrún Sigmundsdóttir agrees. "We've already had a large group of people from France cancel their trip, and we believe this is only the beginning."

If the Universe is Teeming with Aliens, Where is Everybody?

By Stephen Webb, [Copernicus Books, 2002 NYNY]

For anyone who has ever wondered about ET, but never found an answer that truly made sense. The author draws from such varied sources as astronomy, mechanics, logic, genetics, and anthropology to provide an analysis of the title, which is known in physics as the Fermi Paradox.

...Some mathematicians claim that mathematics is not some sort of idealized essence independent of human consciousness, but is rather the invention of human minds. The fascinating question arises: what would the mathematics of an extraterrestrial culture be like? I can imagine a race of intelligent ocean-dwelling creatures developing a math system without the Pythagorean theorem (would they even know about right angles?).

...If aliens exist, then they will possess different sense organs, emotions, philosophies. I suspect if astronomers ever detect a message from intelligent ETs, the dominant emotion mankind would feel – after an initial period of excitement and euphoria – would be frustration. We might struggle for millennia without ever deciphering the meaning of the message.

...One reason why extraterrestrial cultures might choose to keep quiet is fear. When an ET broadcasts to space, it reveals its location and perhaps its level of technology. Any neighbors who are listening may be aggressive. We have no idea whether aliens would think this way, but many humans certainly do. Perhaps caution is a general trait among advanced intelligences. effect.